

Claim 1 recites, "An article comprising:
a disk with a circular opening in the center of the disk; and
a fastener adapted to concentrically attach a disk to a particle outlet
opening of a classifier wheel."

Claim 10 states the article of claim 1 by reciting that the article of claim 1 is "fixed to the lower surface which forms a second circular opening within the first circular opening and reduces the diameter of the first circular opening." All claims depending from claim 10 include the above language. Applicants believe the claims are in proper dependent form and hereby request withdrawal of the objection.

CLAIM REJECTIONS - 35 U.S.C. §112

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification.

Claim 7 recites, "7. An article in accordance with claim 1, wherein the diameter of the disk is from about 10 centimeters to about 1,000 centimeters." The Examiner in the Detailed Action dated August 28, 2001, paper number 6, page 3 states "There is no support for a disk which has a size of up to 10,000 centimeters". Perhaps the 10,000 figure with regards to claim 7 was a typographical error, or perhaps the Examiner is referring to Claim 6 which recites, "6, An article in accordance with claim 1, wherein the diameter of the circular opening is from about 1 centimeter to about 10,000 centimeters. In either case, applicants disagree with the Examiner's assertion that "There is no support for a disk which has a size of up to 10,000 centimeters."

The application disclosure on page 12 indicates that the circular opening can be fixed can be changed or adjusted. In other embodiments, the diameter of the circular opening in the vortex ring or disk can be variable or adjustable. The disclosure indicates that in embodiments, for example, the diameter can be from about 7 centimeters to about 24.0 centimeters. In other embodiments,

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as indicated by the claims, the diameter could range up to about 10,000 centimeters.

The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. Applicants, through their disclosure, Figures, examples and claims have provided sufficient information regarding the subject matter of the claims as to enable one of ordinary skill in the pertinent art to make and use the claimed invention without undue or unreasonable experimentation.

By law a patent application is presumptively enabled when filed. That is, during examination, "[a]s a matter of Patent Office practice . . . a specification . . . must be taken as in compliance with the enablement requirement of the first paragraph of § 112 unless there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support." *In re Marzocchi*, 439 F.2d at 223, 169 U.S.P.Q. at 369. Moreover,

. . . it is incumbent upon the Patent Office, whenever a rejection on [grounds of enablement] is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure.

Id. at 224, 169 U.S.P.Q. at 369-70. Indeed, as pointed out by the PTO in the *Section 112 Enablement Training Manual* (citing *In re Wright*, 999 F.2d at 1561-62, 27 U.S.P.Q.2d at 1513), "the case law makes clear that properly reasoned and

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supported statements explaining any failure to comply with section 112 are a requirement to support a rejection."¹⁸

In accordance with MPEP 2164.04, in order to make a rejection, the Examiner has the initial burden to establish a reasonable basis to question enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) (Examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure). A specification disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.

As stated by the court, "it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure." 439 F.2d at 224, 169 USPQ at 370. *See also Utter v. Hiraga*, 845 F.2d at 998, 6 U.S.P.Q.2d at 1714 ("A specification may, within the meaning of 3 U.S.C. § 112, first paragraph, contain a written description of a broadly claimed invention without describing all species that claim encompasses"), and the embodiment need not necessarily have even been reduced to practice. *See In re Wright*, 999 F.2d 1557, 1561, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993) ("Nothing more than objective enablement is required,

¹⁸ The PTO Training Manual is available on-line at <http://www.uspto.gov> by clicking on the following: "Info by Organization," "Asst. Commissioner for Patents - Office of Patent Policy Dissemination," "Special Training."

and therefore it is irrelevant whether [a] teaching is provided through broad terminology or illustrative examples."

CLAIM REJECTIONS - 35 U.S.C. §102

Claims 1-9, 22 and 23 were rejected under 35 U.S.C. 102(b) as being anticipated by either of references 2,754,967 or 2,367,906.

When an Examiner rejects a claim under § 102, he has the initial burden of establishing anticipation. "It is incumbent upon the Patent Office . . . to set forth clearly why it regards a claim to be anticipated" *In re Mullin*, 481 F.2d 1333, 1336, 179 U.S.P.Q. 97, 100 (C.C.P.A. 1973). An Examiner may not merely assert that a particular reference anticipates a claim. For example, in *Mullin*, the court found the Examiner's assertion that "Claims 1-5 are rejected as obviously anticipated by [a reference] under 35 U.S.C. 102" did not necessarily inform the applicant why the claims were regarded as defective. *Id.* at 1336-37, 179 U.S.P.Q. at 100.

The Examiner has failed to set forth and inform applicants why claims 1-9, 22 and 23 are defective. The cited references do not, for example, anticipate claim 23. The references do not contain each and every element of the claim. The references do not disclose "the adjustment of the diameter of the circular opening is accomplished with a centrifugal value." Further, the references do not recite each every limitation of claim 8 nor the claim from which it depends, for example, the references do not disclose "the fastener is one or more bolts or screws."

The Lykken patent (U.S. 2,754,967) teaches an apparatus for classifying pulverulent materials. The apparatus comprises a substantially cylindrical housing and closed at the ends and having an inlet opening adjacent one end and an outlet opening adjacent the other end. Lykken does not teach that the thickness of the disk is thicker near the particle outlet and thinner near the periphery of the disk and the Examiner has failed to point out any column or line number in Lykken disclosing such a disk. Lykken does not teach and the Examiner has not

claim 2
and 3

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pointed to any column or line in the Lykken patent disclosing a lip or rim adjacent to the circular opening which has a thickness of from about 1.5 to about 5 times the thickness of the disk. Lykken does not teach and the Examiner has not pointed to any column or line in the Lykken patent that discloses that the fastener is one or more bolts, screws, or clamps. Further, Lykken does not teach that the adjustment of the diameter of the circular opening is accomplished with a centrifugal value.

The Wall et al. patent (U.S. 2,367,906) teaches a method and apparatus for recovering wood flour from finely divided wood particles, such as sawdust or sander dust. Wall does not teach that the thickness of the disk is thicker near the particle outlet and thinner near the periphery of the disk and the Examiner has failed to point out any column or line number in Wall disclosing such a disk. Wall does not teach and the Examiner has not pointed to any column or line in the Wall patent disclosing a lip or rim adjacent to the circular opening which has a thickness of from about 1.5 to about 5 times the thickness of the disk. Wall does not teach and the Examiner has not pointed to any column or line in the Wall patent that discloses that the fastener is one or more bolts, screws or clamps. Further, Wall does not teach that the adjustment of the diameter of the circular opening is accomplished with a centrifugal value.

To anticipate a claim, a single source must contain all of the elements of the claim. See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986); *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1574, 224 U.S.P.Q. 409, 411 (Fed. Cir. 1984); *In re Marshall*, 578 F.2d 301, 304, 198 U.S.P.Q. 344, 346 (C.C.P.A. 1978). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. Moreover, the single source must disclose all of the claimed elements "arranged as in the claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); *Connell v. Sears Roebuck & Co.*, 722 F.2d 1542, 1548, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983).

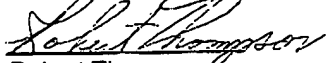
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The rejections of claims under 35 U.S.C. §102 (b) as being unpatentable over the individual references, for at least the above reasons, are believed to be overcome and should be removed.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is hereby authorized to call Applicant's Attorney, Robert Thompson, at Telephone Number (716) 423-2050, Rochester, New York.

No additional fee is believed to be required for this amendment and no transmittal form is included. However, the undersigned Xerox Corporation Attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

Respectfully submitted,



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November 13, 2001
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Pending Claims as of 11/13/01

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1. (Amended) An article comprising:
a disk with a circular opening in the center of the disk; and
a fastener adapted to concentrically attach the disk to a particle outlet opening of a classifier wheel.
 2. An article in accordance with claim 1, wherein the thickness of the disk is thicker near the particle outlet and thinner near the periphery of the disk.
 3. An article in accordance with claim 1, further comprising a lip or rim adjacent to the circular opening which has a thickness of from about 1.5 to about 5 times the thickness of the disk.
 4. An article in accordance with claim 1, wherein the diameter of the circular opening is fixed.
 5. An article in accordance with claim 1, wherein the diameter of the circular opening is adjustable.
 6. An article in accordance with claim 1, wherein the diameter of the circular opening is from about 1 centimeter to about 10,000 centimeters.
 7. An article in accordance with claim 1, wherein the diameter of the disk is from about 10 centimeters to about 1,000 centimeters.
 8. An article in accordance with claim 1, wherein the fastener is one or more bolts or screws.

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9. An article in accordance with **claim 1**, wherein the fastener is one or more clamps.

10. A classifier wheel comprising:
an upper solid surface and a lower surface with a first circular opening therein;
a plurality of blade vanes connecting the upper surface to the lower surface at the peripheral edges of the upper and lower surfaces, and
an article in accordance with **claim 1** fixed to the lower surface which forms a second circular opening within the first circular opening and reduces the diameter of the first circular opening.

11. A classifier wheel in accordance with **claim 10**, wherein the wheel has an internal height(H) of from about 10.0 centimeters to about 20.0 centimeters.

12. A classifier wheel in accordance with **claim 10**, wherein the wheel has a lower surface diameter(D) of from about 20.0 centimeters to about 30.5 centimeters.

13. A classifier wheel in accordance with **claim 10**, wherein the second circular opening has a diameter(d) of from about 5.0 centimeters to about 13.5 centimeters.

14. A classifier wheel in accordance with **claim 10**, wherein the upper surface and the lower surface are substantially parallel.

15. A classifier wheel in accordance with **claim 10**, wherein the upper surface and the lower surface are inwardly curvilinear from about the peripheral edges of the wheel to about the center of the wheel.

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16. An apparatus for the classification of solid particulates entrained in a fluid, comprising:

a housing provided with a feed inlet, a fine fraction outlet, and a coarse fraction outlet; and

a classifier wheel in accordance with claim 10.

17. An apparatus in accordance with claim 16, wherein the fluid is compressed air.

18. An apparatus in accordance with claim 16, wherein the solid particulates are a toner formulation comprising a pigment and a resin.

19. A process for separating and classifying particulates in an apparatus in accordance with claim 16, comprising:

rotating the classifier wheel at speed of from about 500 to about 5,000 revolutions per minute; and

introducing to the apparatus a solid particle feed comprising a fluid stream containing particulates of from about 0.1 to about 10,000 microns in diameter, wherein the fine particles in the particle feed move toward the center of the wheel and thereafter exit the classifier wheel and housing via the fine fraction outlet opening, and the coarse particles move toward the periphery of the wheel and exit the wheel via the coarse fraction outlet.

20. A process in accordance with claim 19, wherein the particulates in the fluid stream are continuously classified within the apparatus to permit a separated fine particle fraction with a weight average particle diameter of from about 1 to about 10 micrometers and a standard deviation of from about 0.1 to about 0.5 micrometers.

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21. A process in accordance with **claim 20**, wherein from about 10 to about 10,000 pounds of the fine particle fraction is separated in from about 1 to about 24 hours.

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22. (Amended) A kit comprising:
a disk with a circular opening in the center of the disk; and
at least one fastener adapted to attach the disk to the particle outlet opening of a classifier wheel.

23. An article in accordance with **claim 1**, wherein the adjustment of the diameter of the circular opening is accomplished with a centrifugal value.

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